

Hardiness in Stroke: An in Depth Concept Analysis with Walker & Avant's Framework

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ABSTRACT

Background: Hardiness encourages people to create effective coping mechanisms when faced with difficulty. Hardiness evaluation techniques are still up for discussion, and understanding of Hardiness in stroke patients is still limited.

Purpose: The purpose of this concept analysis was to deepen the understanding of hardiness in individuals who have had stroke.

Methods: Concept analysis was conducted using the Walker and Avant method. The terms "stroke patient," "hardiness," and "concept analysis" were used to search the databases of PubMed, MEDLINE, and the Cumulative Index to Nursing and Allied Health Literature.

Results: The defining traits of hardiness were split into internal psychological traits and external contextual support in stroke patients. Physical, mental, familial, and societal limitations brought on by the illness were the causes, and excellent adaptation—which included taking an active role in rehabilitation programs, thinking positively, setting goals, and adhering to optimism for the future—was the result.

Conclusion: The essence of hardiness is complex and varied. Optimism and positivism, problem-solving abilities, adaptation, and family and societal support can all aid in readjusting or restoring the equilibrium between physically and emotional health when a stroke patient is experiencing problems. In order to develop effective interventional treatment methods, future research should concentrate on the critical factors influencing the hardiness of stroke patients.

Keywords: Adaptation; Concept analysis; Coping mechanism; Difficulty; Framework; Hardiness; Optimism; Positivism; Patients; Stroke; Walker & Avant's Framework.

1. Introduction

A stroke can occur when blood clots develop in the brain, stop the flow of blood, block arteries, and cause blood vessels to rupture, resulting in haemorrhage. When the arteries to the brain burst during a stroke, brain cells abruptly die from a lack of oxygen (Shakir, 2018). Stroke is the second leading cause of death worldwide, and a major cause of disability. The incidence of stroke is increasing because the population is aging (Katan & Luft, 2018). Approximately 87% of strokes are ischemic infarctions and 13% of strokes are haemorrhagic infarctions (Kuriakose & Xiao, 2020).

A person's capacity to handle and react to difficult life events with coping mechanisms that transform potentially adverse circumstances into learning opportunities is known as hardiness (Hardiness - IResearchNet, 2016). One of the personality traits that helps people adjust to stressful circumstances and maintain their mental health is hardiness (Malkin et al., 2019).

Hardiness has been extensively researched as a psychological trait that may play a role in the development and preservation of healthy behaviours. According to reports, Kobasa's hardiness factor, made up of control, commitment, and challenge, is a key factor in understanding why some people can endure stress without becoming ill (Sadaghiani, 2011).

Studies and uses of hardiness across disciplines have steadily increased in recent years. Additionally, a greater emphasis has been placed on the value of hardiness in a variety of scholastic disciplines. However, the bulk of

nursing-related study has concentrated on the hardness of the elderly. Stroke patients lack hardness information, and most individuals do not all share the same idea of hardness (Abdollahi et al., 2014).

In clinical practice, it has been noted that some patients, despite facing significant challenges and barriers, are able to adjust well when confronted with illness. However, it is still unclear how hardness affects stroke patients' environments and daily lives, as well as how protective factors like positivity and persistence help to overcome challenges and mitigate risk factors (Kalavina, 2019).

1.1. Purpose of the Concept Analysis

The purpose of this concept analysis was to deepen the understanding of hardness in individuals who have had stroke.

1.2. Objectives of the Concept Analysis

- 1.** To define the concept of hardness specifically in the context of stroke patients, distinguishing its unique attributes and characteristics.
- 2.** To identify and describe the defining attributes of hardness in stroke patients, both internal psychological traits and external contextual support.
- 3.** To determine the antecedents (events or incidents leading to the development of hardness) and consequences (outcomes resulting from hardness) in stroke patients.
- 4.** To create a conceptual model that illustrates the relationships between the antecedents, attributes, and consequences of hardness in stroke patients.
- 5.** To understand how hardness can facilitate better adaptation and coping mechanisms among stroke patients, improving their physical and emotional well-being.
- 6.** To describe and evaluate the empirical referents that can be used to recognize and measure the defining characteristics of hardness in stroke patients.

2. Concept Analysis Method

Concept analysis is a process of examining the basic elements of a concept; it can be useful in refining ambiguous concepts and constructing research instruments (Article & Integrative, 2018).

To examine the elements of the concept of hardness in stroke patients, I used the Walker and Avant method for concept analysis, which entails the following stages:

- 1. Select a Concept:** choose a concept of interest, usually the substantial and important topic encountered in clinical works.
- 2. Determine the Purpose of the Analysis:** focusing on the aims and intention of how to use the collected results. What is the importance of this concept? Why analyse the concept?
- 3. Identify all Uses of the Concept:** identify as many uses of the concept as necessary, covering all possible fields of knowledge related to it.

4. Determine the Defining Attributes: identify the cluster of attributes of characteristics that are most frequently associated with the concept; it is crucial to the concept analysis, through it exploiting the essence of the concept.

5. Construct a Model Case: identify a model case that demonstrates all the defining attributes of the concept. The case was constructed based on real clinical observations.

6. Construct an Additional Case: identify borderline case (containing most but not all the defining attributes), related care (containing similar but not the same defining attributes) and contrary cases that are not based on said concept. The cases were constructed based on real clinical observations.

7. Identify Antecedents and Consequences: identify the events or incidents that must occur prior to and after the occurrence of the concept.

8. Define Empirical Referents: describe empirical references that facilitate recognition or measurement of the defining characteristics or attributes.



Figure 1. Main steps of the concept analysis of hardiness in stroke patients

2.1. Selection of Concept

In psychology, the concept of "hardiness" is commonly used to describe a person's ability to handle stress and adversity. Stroke is a serious life-changing event that can cause patients to experience physical, mental, and societal challenges, so stroke patients may benefit from an emphasis on hardiness. By promoting the development of hardiness in stroke patients, healthcare workers can help them take control of the healing process, boost their desire for therapy, and ultimately improve their general well-being. As a result, those who provide care for stroke patients use the concept of hardiness as a tool to help them cope with the challenges they encounter after a stroke and increase their recovery process.

2.2. Objective

To conduct a concept analysis of hardiness in individuals who have had strokes.

2.3. Significance

In order to examine patient hardiness and give the concept the necessary clarity, the current study used Walker and Avant's conceptual analysis model. In addition to outlining the concept's history of development, fundamental elements, and situational definition, we also seek to broaden our knowledge of patients' hardiness potential and establish key facts about it, serving as a guide for the creation of clinical health care guidelines.

2.4. Definition of Concepts

Hardiness: Hardiness is defined as a constellation of attitudes, beliefs, and behavioural tendencies that consist of three components: challenge, commitment, and control (Lambert & Lambert, 1999).

Stroke: A stroke is described as the abrupt impairment or loss of consciousness, sensation, and voluntary motion caused by the rupture or obstruction (such as by a clot) of a blood vessel supplying the brain and accompanied by permanent damage to brain tissue (*Definition of Stroke*, 2019).

2.5. Uses of the Concept

Hardiness is a concept that describes a group of psychological characteristics that enable a person to effectively handle stress and hardship. These qualities include a feeling of control over one's environment, commitment to one's goals, and belief that one can discover meaning and purpose in life (Kobasa et al., 1982). Hardiness has been studied in the context of stroke recovery, and there are several potential uses of hardiness in stroke patients:

1. Coping with Emotional Impact of Stroke

Stroke can be a stressful event that causes mental and physical distress. Coping with these effects is difficult (Lo Buono et al., 2016). Hardiness can give stroke patients a feeling of control over their rehabilitation and the conviction that they can derive meaning and purpose from their experience, which can help them deal with these difficulties.

2. Improving Adherence to Rehabilitation

Rehabilitation is an essential part of stroke healing, but it can be difficult and time-consuming (NINDS | Post-Stroke Rehabilitation, 2014). By encouraging a commitment to their goals and a confidence in their capacity to overcome obstacles, hardiness can help stroke patients persist with their rehabilitation programs.

3. Enhancing Resilience

Resilience is the capacity to overcome obstacles and difficulties (Yan & Lin, 2022). By giving them a feeling of control over their circumstances and the confidence that they can overcome obstacles, hardiness can aid stroke patients in developing resilience.

4. Facilitating Social Support

Hardiness can aid stroke patients in making and maintaining relationships, which is crucial for their rehabilitation after a stroke (Kristensen et al., 2016). A feeling of commitment to one's relationships and the belief that one can derive meaning and purpose from interactions with others can both be fostered by hardiness.

5. Adapting to Physical Limitations

A person's quality of life may be greatly impacted by the bodily impairments that can result from a stroke (Tiwari et al., 2021). By giving them the drive and perseverance required to persist through rehabilitation and gain function, hardiness can aid stroke patients in adjusting to these constraints.

6. Improving Overall Well-Being

Hardiness can help stroke patients feel more in control of their circumstances and better able to handle the challenges they encounter, which can improve their feeling of wellbeing (McCurley et al., 2018). This may result in better results for both physical and emotional wellness.

7. Managing Lifestyle Changes

Many survivors of stroke might need to change their lifestyle afterward, perhaps by changing their nutrition or reducing certain activities (Bailey, 2016). Hardiness can support stroke patients in making these adjustments by giving them the determination and perseverance required to face challenges and maintain motivation.

3. Results

Based on the literature-searching strategies 19 articles were selected for use in the concept analysis procedure, numerous attributes or characteristics that are most frequently associated with hardiness in stroke patients were identified, and the antecedents and consequences were also identified.

3.1. Defining Attributes

The first attribute, hardiness, is a personality style that supports dealing with stressful situations and actively participating in creative coping (Mosley & Laborde, 2016).

People who are hardy to stress perceive stress as a challenge rather than a threat, feel in control of their lives, and are committed to their jobs, families, and communities rather than feeling separated from them. Hardy people are thought to have a strong sense of commitment, control, and challenge (Kobasa, 1979), which leads to an existential courage that inspires people to make the most of difficult circumstances (Maddi, 2006). Being genuinely engaged in a situation and having a propensity to not give up easily are two characteristics that are known as commitment (Maddi, 2002).

The second attribute identified was an individual's ability to find meaning and a sense of purpose. This has to do with the feeling of significance and survival attached to one's life. Bartone et al. (2013) noted that individuals high in commitment are more intimately engaged with the world and see their experience as usually meaningful and essential. This quality is closely linked to the component of commitment. As a result, they are more interested in what is going on around them, more vigilant, and therefore more likely to notice various parts of circumstances as well as consider various alternative responses. This quality shows the person's assurance in their capacity to deal with various situations and increase their sense of independence (Holahan & Moos, 1985).

The control aspect of hardiness, according to Kobasa, Maddi, and Kahn (1982), is the third quality. It is a tendency to think that one can shape the events one encounters (Kowalski & Schermer, 2018). The control aspect of hardiness, according to Bartone et al. (2013), derives from the idea of centre of control. Extensive experimental research demonstrating that when individuals have control over undesirable stimuli, the impacts of stress are significantly diminished also had an impact on Kobasa's focus on control (Wallston, 1991).

3.2. Model Case

Based on the above-mentioned defining attributes or characteristics of hardiness, we constructed a model case that included all defining attributes to assist in the understanding of hardiness in stroke patients.

The patient was a 63-year-old male diagnosed 3 months ago with a right-side ischemic cerebellar stroke (Challenge). The patient is right hand dominant. He currently smokes and prior to the stroke he had a history of

hypertension. He was a retired assembly line factory worker prior to the accident. He lives at home in a bungalow with his spouse. The patient was referred to outpatient physiotherapy from a local rehabilitation hospital following discharge to improve independence, mobility, and performing activities of daily living (commitment). The patient's goals of walking independently without a cane, an intervention used was treadmill-based gait training. The patient responded very well to the interventions. The patient feels that he is more in control of his life, as he is able to perform more of his activities of daily living and able to walk independently (Control).

3.3. Borderline Case

This case possessed most but not all of the defining attributes of hardiness in stroke patients. A patient 40-year-old secondary school teacher, had concomitant hypertension and suffered from a stroke. This led to mild hemiparesis, which resulted in hospitalization for rehabilitation treatment (challenge). His wife, arrived on his ward punctually at 9:00 am daily to accompany him for his rehabilitation session and left thereafter. He felt depressed about suffering a stroke at a young age and viewed himself as useless and a burden to his family. During our interview, he expressed the hope of regaining his health and returning to work soon (commitment). He was willing to cooperate with various rehabilitation activities and actively utilized his free time outside of rehabilitation to practice walking in his ward (positive coping strategy).

3.4. Contrary Case

This case was completely contrary to the defining attributes and lacked all core attributes of hardiness in stroke patients. A patient 66-year-old widower who lived alone, suffered from concomitant hypertension and stroke (challenge). During hospitalization, his family members did not visit him, and assistance in activities of daily living was provided by a caregiver. Mr. Chen displayed a poor attitude toward nurses (poor interpersonal relationships and interactions) and frequently grumbled about his children's unwillingness to visit him (lack of familial support). He felt that there was no point in living as he had to depend on others for everyday tasks (low self-esteem). He often complained of poor physical condition and was unwilling to attend his thrice-weekly physical therapy sessions (no commitment). Sometimes, he mumbled to himself that there was no point in exercising as it was completely ineffective. He would spend most of his time lying on his hospital bed and lamenting his lack of luck (lack of control).

3.5. Antecedents

The term "antecedents" refers to the causes that challenged events like trauma, stress, and illness, which are what lead to the development of hardiness. Clinical studies have demonstrated that the following are the main difficulties and typical physically impairments that post-stroke people experience: (3) Cognitive impairments such as attention deficit, irritability, and memory impairment, which affect about one-third of patients. (1) Damage to limb function, such as disability and paralysis, which results in limited mobility and a deficit in self-care. (2) Speech disorders, such as dysphagia, non-fluent speech, or aphasia (Tsai et al., 2016).

Mental impairments were another important group of antecedents, and these were frequently followed by unfavourable feelings like regret, misery, nervousness, anxiety, sadness, despair, fear, and rage, as well as the appearance of a negative self-concept and loss of self-esteem (Yan & Lin, 2022). The last group, familial, also

included social disabilities like post-acute care problems, relationship issues, and health insurance issues. Following the disruption of their work lives by stroke, stroke patients' personal, household, and societal responsibilities changed, which made them worry about their source of income, their chances for future employment, and the absence of healthcare resources (Sarre et al., 2013).

3.6. Consequences

The outcomes of hardiness growth, particularly successful adaptation, are consequences. Stroke hardiness may have good effects, as measured by improved quality of life or successful adaptation, or it may have negative effects, as measured by depression or powerlessness (Lee, 2016).

According to previous studies, stroke patients who adapted effectively to their illness shifted towards healthier coping strategies, which include the following: (1) Self-care and regaining control over one's own body are examples of personal control. Other examples include active involvement in rehabilitation activities, greater physical exercise, and better self-care skills; (2) Psychological adjustment: modifying or changing disease-related beliefs, exhibiting the ability to function independently and autonomously, and attempting to lessen the load on family members with the help of familial and societal support; (3) Personal growth: conquering challenges, maintaining optimism, altering one's perspective, and dealing with challenges; and (4) Holding onto hope for the future: creating plans and providing your life meaning (Tsai et al., 2016).

It is clear that those who consistently lack toughness also frequently use negative coping mechanisms to stay away from stressful situations (Bartone, 2006). The lack of hardiness raises the possibility that the person may be more susceptible to the damaging effects of stress. By modifying how one perceives stress and utilizing powerful coping mechanisms, hardiness offers protection from stress (Kobasa et al., 1982). Thus, hardiness helps people cope with persistent illnesses or live better lives.

3.7. Empirical referents

Empirical referents are the distinguishing qualities or traits that demonstrate the existence of hardiness.

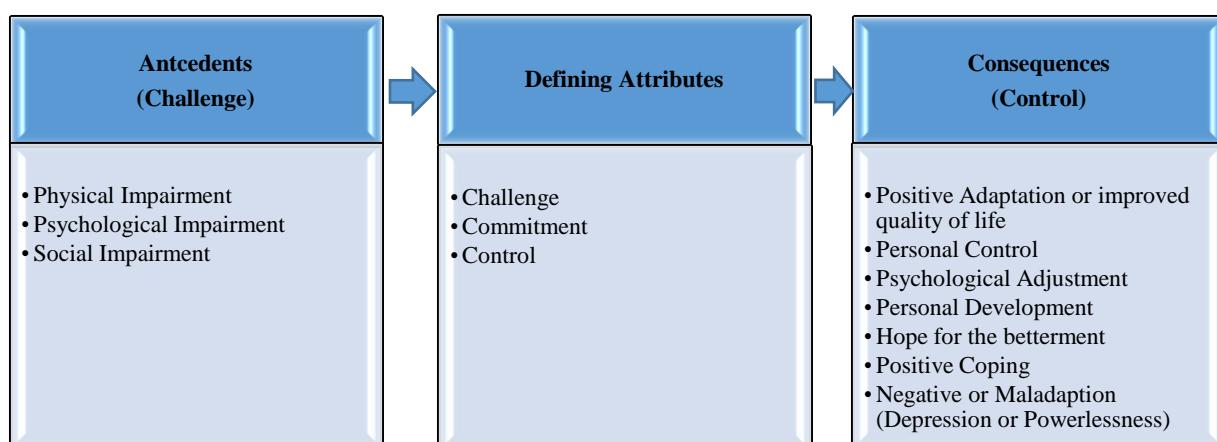


Figure 2. Conceptual model of hardiness in stroke patients

Note: The following conceptual model can be utilized to organize the causes, effects, and distinguishing characteristics of the manifestation of excellent hardiness in stroke patients.

4. Conclusion

In conclusion, the concept of hardiness can help people with stroke manage the physical, mental, and cognitive difficulties that can occur after a stroke. The essence of hardiness is complex and varied. Optimism and positivism, problem-solving abilities, adaptation, and family and societal support can all aid in readjusting or restoring the equilibrium between physically and emotional health when a stroke patient is experiencing problems. In patients with stroke, higher amounts of hardiness are linked to improved physically and emotional outcomes. Therefore, in order to improve stroke patients' quality of life, healthcare workers could benefit from adding hardiness-focused treatments into the rehabilitation and management of stroke patients and also develop effective interventional treatment methods, future research should concentrate on the critical factors influencing the hardiness of stroke patients.

5. Recommendations

Based on this concept analysis, here are some recommendations for future research on the concept of hardiness in stroke patients:

- 1. Explore the Impact of Individual Traits:** Investigate how specific individual psychological traits, such as resilience, determination, and self-efficacy, contribute to the development of hardiness in stroke patients.
- 2. Assess the Role of External Support:** Examine the influence of different forms of external support, including family, friends, healthcare professionals, and community resources, on the hardiness of stroke patients.
- 3. Evaluate Interventions:** Conduct studies to evaluate the effectiveness of interventions aimed at enhancing hardiness in stroke patients, such as cognitive-behavioural therapy, mindfulness techniques, or support group programs.
- 4. Longitudinal Studies:** Conduct longitudinal research to track changes in hardiness levels over time in stroke patients and identify factors that contribute to fluctuations in hardiness.
- 5. Cross-Cultural Studies:** Compare the concept of hardiness in stroke patients across different cultural contexts to gain a better understanding of how cultural beliefs and values impact the development and expression of hardiness.
- 6. Utilize Mixed Methods Approaches:** Combine quantitative and qualitative research methods to provide a comprehensive understanding of hardiness in stroke patients, including both objective measurements and subjective experiences.

By focusing on these areas of research, further insights can be gained into how hardiness manifests in stroke patients and how healthcare professionals can better support their coping and adaptation processes.

Declarations

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Conflict of Interest

The authors declare that they have no conflict of interest.

Consent for publication

The authors declare that they consented to the publication of this study.

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